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Project PiPeNovel: Pilot on Post-editing Novels

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Abstract

Given (i) the rise of a new paradigm to machine translation based on neural networks that results in more fluent and less literal output than previous models and (ii) the maturity of machine-assisted translation via post-editing in industry, project PiPeNovel studies the feasibility of the post-editing workflow for literary text conducting experiments with professional literary translators.

Machine translation (MT) has progressed enormously over the last years and it is widely used nowadays for gisting purposes. However, its use in professional translation is still largely confined to the post-editing of technical and legislative text. The aim of PiPeNovel is to carry out a pilot study to assess the feasibility of broadening the use of the post-editing workflow to literary text, in particular to novels. The translation direction covered in the project is English-to-Catalan. Now PiPeNovel is about to finish and we present the three main activities conducted in the project:

(1) MT. First, we built a literary-adapted neural MT (NMT) system and evaluated it against a system pertaining to the previous dominant paradigm in MT: statistical phrase-based MT (PBSMT) (Toral and Way, 2018). Both systems were trained on over 1,000 novels. We conducted a human evaluation on three novels by Orwell, Rowling and Salinger; between 17% and 34% of the translations, depending on the book, produced by NMT (versus 8% and 20% with PBSMT) were perceived by native speakers of the target language to be of equivalent quality to translations produced by a professional human translator.

(2) Post-editing effort. Subsequently, using these MT systems, we conducted a post-editing

study with six professional literary translators on a fantasy novel (Toral et al., 2018). We analysed temporal effort and found that both MT approaches result in increases in translation productivity: PBMT by 18%, and NMT by 36%. Post-editing also led to reductions in the number of keystrokes (technical effort): by 9% with PBMT, and by 23% with NMT. Finally, regarding cognitive effort, post-editing resulted in fewer (29% and 42% less with PBMT and NMT respectively) but longer pauses (14% and 25%).

(3) Translators' perceptions. Finally, we analysed the perceptions of the translators that took part in the post-editing experiment (Moorkens et al., 2018), which were collected via questionnaires and a debrief session. While, as stated before, all participants were faster when post-editing NMT, they all still stated a preference for translation from scratch, as they felt less constrained and could be more creative. When comparing MT systems, participants found NMT output to be more fluent and adequate.

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